CLAIMS

What is claimed is:

1. (Currently Amended). A synthesizer, comprising:

means for receiving an input audio stream representing an audio performance and including a plurality of audio input samples at a first sample rate;

means for receiving data representing an impulse response that corresponds to an acoustic effect; and

means for generating an output audio stream during a response time based on the input audio stream and the impulse response by convolving the audio input samples with the data representing the impulse response for a portion of the response time and modeling an output audio system during the balance of the response time.

2. The synthesizer of claim 1, further comprising means for receiving from a user an indication of the acoustic effect.

3. The synthesizer of claim 1, wherein the acoustic effect comprises an acoustic modification of the audio performance.

(Cancelled)

4. (Currently Amended). The synthesizer of claim 1, wherein the input audio stream comprises a plurality of audio input samples for each of a plurality of input channels.

5. (Currently Amended). The synthesizer of claim 1, wherein the output audio stream includes a plurality of output channels.

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6. (Currently Amended). The synthesizer of claim 1, wherein the acoustic effect comprises acoustically simulating recording the audio performance using a particular microphone.

7. (Currently Amended). The synthesizer of claim 1, wherein the acoustic effect comprises acoustically simulating recording the audio performance using a particular microphone placement.

8. (Currently Amended). The synthesizer of claim 1, wherein the acoustic effect comprises acoustically simulating recording the audio performance in a particular musical context.

9. (Currently Amended). The synthesizer of claim 1, wherein the acoustic effect comprises acoustically simulating playing at least a portion of the audio performance using a particular instrument body.

10. (Currently Amended). The synthesizer of claim 1, wherein the acoustic effect comprises acoustically simulating playing at least a portion of the audio performance using a particular instrument placement.

11. (Currently Amended). The synthesizer of claim 1, wherein the generating means comprises means for recursively extrapolating a tail portion of the output audio stream.

12. (Currently Amended). The synthesizer of claim 1, wherein the audio performance includes a first number of source channels, and wherein the output audio stream generated by the generating means includes a second number of output channels greater than the first number of source channels.

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13.   (Currently Amended).   The synthesizer of claim 12 ~~13~~, wherein the audio performance includes only a single source channel and wherein the output audio stream comprises a simulated stereo version of the single source channel.

14.   (New). An acoustic synthesizer for synthesizing one or more acoustic effects, the acoustic synthesizer comprising:

an input subsystem for receiving an input audio stream and storing said input audio stream in a predetermined file structure; and

an acoustic synthesizer subsystem for emulating an acoustic effect and generating an output audio stream as a function of said input audio stream and said acoustic effect defined by one or more acoustic parameters, said acoustic parameters stored in said predetermined file structure.

15.   (New). The acoustic synthesizer as recited in claim 14, wherein said acoustic synthesizer subsystem includes a system for varying the acoustic effect and resulting output audio stream in real time.

16.   (New).   The acoustic synthesizer as recited in claim 14, wherein said predetermined file structure includes a plurality of data fields.

17.   (New).   The acoustic synthesizer as recited in claim 16, wherein said plurality of data fields define a plurality of data types.

18.   (New).   The acoustic synthesizer as recited in claim 17, wherein at least one of said data types includes ambient environment data.

19.   (New).   The acoustic synthesizer as recited in claim 16, wherein said plurality of data fields define an instrument.

20.   (New).   The acoustic synthesizer as recited in claim 16, wherein said plurality of data fields define a microphone type.

21.   (New).   The acoustic synthesizer as recited in claim 16, wherein said plurality of data fields define a document.

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